

FLAT PANEL DIFFUSER
ABSTRACT OF THE DISCLOSURE

A device including a membrane having first and second faces; a first substrate disposed on the first face of the membrane and having (i) a plurality of first absorptive regions and (ii) a plurality of first reflective regions formed as wells in a face of the first substrate, the first absorptive regions and the first reflective regions arranged in a pre-defined grid pattern; a second substrate disposed on the second face of the membrane and having (i) a plurality of second absorptive regions and (ii) a plurality of second reflective regions formed as second wells in a face of the second substrate, the second absorptive regions and the second reflective regions arranged in the pre-defined grid pattern. The pre-defined grid pattern is arranged in accordance with a random binary sequence where a zero of the binary sequence is represented by a first absorptive region of the plurality of first absorptive regions and a one is represented by a first reflective region of the plurality of first reflective regions, and the second substrate is disposed on the second face of the membrane 180 degrees out of phase relative to the first substrate.